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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,092	03/15/2004	Joseph Megerman	03-180 US	4567

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EXAMINER

TOY, ALEX B

ART UNIT	PAPER NUMBER
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3739

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/802,092	Applicant(s) MEGERMAN ET AL.	
	Examiner Alex B. Toy	Art Unit 3739	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 35-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 42-44 and 53-55 is/are allowed.
- 6) ☒ Claim(s) 1-13, 35-41 and 45-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/23/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, 10-12, 35-40, and 45-51 are rejected under 35 U.S.C. 102(b) as being anticipated by Quijano (U.S. PGPub 2003/0014098 A1).

Regarding claim 1, Quijano discloses an ablation probe, comprising:

an elongated member 42 (Fig. 1);

a heat ablative element 12 mounted to a distal end of the elongated member (pg. 1, ¶ 1, pg. 3, ¶ 28, and Fig. 2);

a thermoelectric cooling device 13, 14 or 86, 87 mounted to the elongated member in thermal communication with the ablative element (pg. 3, ¶ 28 and ¶ 33-34 and Figs. 2 and 5).

Regarding claim 2, Quijano discloses the probe of claim 1, wherein the elongated member is rigid. In paragraph 32, Quijano incorporates Behl (U.S. Pat. No. 6,212,433 B1) by reference. Behl discloses an embodiment wherein the elongated member is rigid to facilitate entry of the electrode into the tissue (col. 9, ln. 51-59).

Regarding claim 3, Quijano discloses the probe of claim 1, comprising a plurality of thermoelectric cooling devices 13, 14 or 86, 87 mounted to the elongated member in

thermal communication with the ablative element (pg. 3, ¶ 28 and ¶ 33-34 and Figs. 2 and 5).

Regarding claim 4, Quijano discloses the probe of claim 1, wherein the thermoelectric device 82, 83, 86, 87 is formed as an elongated tube that extends through the elongated member (pg. 3, ¶ 33-34 and Fig. 5).

Regarding claim 5, Quijano discloses the probe of claim 1, wherein the thermoelectric device is in direct contact with the ablative element (Fig. 5).

Regarding claim 6, Quijano discloses the probe of claim 1, wherein the ablative element is a radio frequency (RF) electrode (pg. 1, ¶ 1).

Regarding claim 7, Quijano discloses the probe of claim 1, wherein the ablative element comprises a plurality of tissue penetrating needle electrodes. In paragraph 32, Quijano incorporates Behl (U.S. Pat. No. 6,212,433 B1) by reference. Behl discloses an embodiment wherein the ablative element comprises a plurality of tissue penetrating needle electrodes (Fig. 6A).

Regarding claim 8, Quijano discloses the probe of claim 1, further comprising a heat sink 42 thermally coupled to the thermoelectric device (pg. 3, ¶ 37). The catheter of Quijano acts as a heat sink.

Regarding claim 10, Quijano discloses the probe of claims 1 and 8, wherein the thermoelectric device comprises a cold side 86, 87 in thermal communication with the ablative element and a hot side 82, 83 in thermal communication with the heat sink (pg. 3, ¶ 33-34 and Fig. 5).

Regarding claim 11, Quijano discloses an ablation system, comprising:

the ablation probe of claim 1 (see the preceding rejection of claim 1);

thermal control circuitry 48 electrically coupled to the thermoelectric device, the control circuitry configured for transmitting a signal to the thermoelectric device, whereby the thermoelectric device cools the ablative element (pg. 3, ¶ 34).

Regarding claim 12, Quijano discloses the ablation system of claim 11, further comprising an ablation source 49 coupled to the ablative element (Fig. 1).

Regarding claim 35, Quijano discloses an ablation probe, comprising:

an elongated member 42 (Fig. 1);

a heat ablative element 12 mounted to a distal end of the elongated member, the ablative element having a hollow cylindrical portion (pg. 1, ¶ 1, pg. 3, ¶ 28, and Fig. 2); and

a plurality of discrete cooling devices 13, 14 or 86, 87 circumferentially distributed around an inner surface of the cylindrical portion (pg. 3, ¶ 28 and ¶ 33-34 and Figs. 2 and 5).

Regarding claim 36 see the preceding rejections of claims 2 and 35.

Regarding claim 37 see the preceding rejections of claims 1 and 35.

Regarding claim 38 see the preceding rejections of claims 6 and 35.

Regarding claim 39, Quijano discloses the probe of claim 35, wherein the ablative element is a tissue-penetrating electrode (pg. 3, ¶ 31).

Regarding claim 40 see the preceding rejections of claims 8 and 35.

Regarding claim 45 see the preceding rejections of claims 1, 3, and 35.

Regarding claim 46 see the preceding rejections of claims 2 and 45.

Regarding claim 47 see the preceding rejections of claims 3 and 45.

Regarding claim 48 see the preceding rejections of claims 5 and 45.

Regarding claim 49 see the preceding rejections of claims 6 and 45.

Regarding claim 50 see the preceding rejections of claims 39 and 45.

Regarding claim 51 see the preceding rejections of claims 8 and 45.

Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Panescu (U.S. Pat. No. 5,735,846).

Regarding claim 1, Panescu discloses an ablation probe, comprising:

an elongated member 22 (Fig. 7);

a heat ablative element 16 mounted to a distal end of the elongated member (Fig. 7);

a thermoelectric cooling device 80 mounted to the elongated member in thermal communication with the ablative element (col. 7, ln. 59 – col. 8, ln. 11 and Fig. 7).

Regarding claim 4, Panescu discloses the probe of claim 1, wherein the thermoelectric device 80 is formed as an elongated tube 82, 84 that extends through the elongated member (col. 7, ln. 59 – col. 8, ln. 11 and Figs. 7-8).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 9, 41, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quijano ('098) in view of Segal (U.S. Pat. No. 5,755,752).

Regarding claim 9, Quijano discloses the probe of claims 1 and 8 with a heat sink. The claim differs from Quijano in calling for the heat sink to comprise a heat sink rod that extends through the elongated member, and a plurality of cooling fins formed at a proximal end of the heat sink rod. Segal, however, teaches a heat sink comprising a heat sink rod 50 that extends through the elongated member, and a plurality of cooling fins 58 formed at a proximal end of the heat sink rod for more efficient heat dispersion (col. 6, ln. 12-19 and Fig. 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a heat sink as claimed in the device of Quijano in view of the teaching of Segal as an obvious alternate type of heat sink with more efficient heat dispersion.

Regarding claim 41, see the preceding rejections of claims 9, 35, and 40.

Regarding claim 52, see the preceding rejections of claims 9, 45, and 51.

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Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Quijano ('098) in view of Panescu ('846).

Regarding claim 13, Quijano discloses the ablation system of claims 11 and 12. The claim differs from Quijano in calling for the ablation system to comprise a console containing the thermal control circuitry and ablation source. Panescu, however, teaches a console 90 containing the thermal control circuitry 98 and ablation source 12 (col. 10, ln. 52-59, col. 11, ln. 49-57, and Fig. 8). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a console in the device of Quijano as claimed in view of the teaching of Panescu because consoles with control circuitry and an ablation source are obvious and well-known in the art.

Allowable Subject Matter

Claims 42-44 and 53-55 are allowed. However, claim 42 would have to be rewritten to include all the limitations of rejected claim 35. Likewise claim 53 would have to be rewritten to include all the limitations of rejected claim 45.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 4860748 A	USPAT	Chiurco; Anthony A. et al.
US 5139496 A	USPAT	Hed; Aharon Z.
US 5529067 A	USPAT	Larsen; Charles E. et al.
US 5779696 A	USPAT	Berry; Michael J. et al.
US 6196839 B1	USPAT	Ross; Robert Gregg
US 6212433 B1	USPAT	Behl; Robert S.
US 6547783 B1	USPAT	Vilendrer; Kent et al.
US 6685702 B2	USPAT	Quijano; Rodolfo C. et al.
US 20040079089 A1	US-PGPUB	Wallach, John M.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex B. Toy whose telephone number is (571) 272-1953. The examiner can normally be reached on Monday through Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C.M. Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AT *AT*
8/2/06

Michael Peffley
MICHAEL PEFFLEY
PRIMARY EXAMINER